

# Notice of Allowability

Application No.

10/724,550

Examiner

Albert K. Wong

Applicant(s)

IRELAND, ANTHONY J.

Art Unit

2612

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the election filed 5/22/06.
2. ☒ The allowed claim(s) is/are 1-25, 27-32, 35-39, 45-51 and 61-64.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
  1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

## Attachment(s)

1. ☒ Notice of References Cited (PTO-892) ✓
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413) ✓  
Paper No./Mail Date 8-16-06
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

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1. This Office action is in response to the election filed April 26, 2006. Claims 1-60 are pending, claims 52-60 have been withdrawn from consideration as directed toward a non-elected invention. Applicant's election of species I (claims 1-51), without traverse, is hereby acknowledged. The election is made final.

### **EXAMINER'S AMENDMENT**

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Anthony J. Ireland on August 13, 2006.

The application has been amended as follows:

#### **In the specification:**

Please delete lines 10-11 on page 1 and insert "now Patent 6,747,579."

#### **In the claims:**

Please cancel claims 26, 33-34, 40-44 and 52-60.

1. (Currently Amended) A method for using proportional commands to control a train layout comprising:

providing a proportional control input for generating a proportional signal in response to an input action;

using a command station to process said proportional signal into a track control waveform for said train layout;

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communicating said track control waveform to said train layout;

using a decoder to receive said track control waveform from said train layout and to decode said track control waveform to control a device for proportional effect.

2. (Currently Amended) The method of claim 1 wherein said track control waveform is a digital bipolar square-wave waveform.

3. (Currently Amended) The method of claim 2 wherein said digital bipolar square-wave waveform is a waveform selected from the group comprising: NMRA DCC, Marklin Trinary, Trix, FMZ, and Zimo.

4. (Currently Amended) The method of claims 1 or 2 wherein said proportional control input communicates to said command station with a bi-directional system data network.

5. (Currently Amended) The method of claim 4 further comprising a layout detection system for bi-directional data exchange with said decoder to allow display of data communicated via said bi-directional system data network.

6. (Currently Amended) The method of claim 4, wherein said proportional control input is a throttle means.

7. (Currently Amended) The method of claim 4, wherein said proportional control input includes a computer.

8. (Currently Amended) The method of claim 1, wherein said proportional control input is a throttle.

9. (Currently Amended) The method of claim 1, wherein said proportional control input includes a computer.

10. (Currently Amended) The method of claim 7 or 9 wherein said computer is further connected to an Internet.

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11. (Currently Amended) The method of claim 1, wherein said decoder has a synchronous data connection to an expansion module.

12. (Currently Amended) The method of claim 11, wherein said expansion module controls a sound generator.

13. (Currently Amended) The method of claim 12, wherein said sound generator modifies sound pitch and volume in response to motor load and speed information.

14. (Currently Amended) The method of claim 1, wherein said decoder controls a sound generator in response to said proportional control input.

15. (Currently Amended) The method of claim 12, wherein said sound generator is controlled by said proportional control input.

16. (Currently Amended) The method of claims 12 or 14, wherein the control of said sound generator is used to simulate at least one effect from the group comprising: variable rate pitch-change Doppler effect, variable rate amplitude-change Doppler effect, sound pitch, volume, repetition rate, sound duration, echoes, reverberation, and number of events.

17. (Currently Amended) The method of claim 13, wherein said motor load and speed information varies a steam chuff.

18. (Currently Amended) The method of claim 11 further including a track power connection to said expansion module for direct decoding of track commands.

19. (Currently Amended) The method of claim 1, wherein said decoder device controls a light.

20. (Currently Amended) The method of claim 1, wherein the signal from the control input is a latched value other than at a resting state.

21. (Currently Amended) The method of claim 20, wherein said proportional control input includes at least one proportional key arranged with at least one binary key to provide a latched value.

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22. (Currently Amended) The method of claim 1, wherein said proportional control input includes a multiplicity of keys and wherein said proportional control input controls a plurality of different effects.

23. (Currently Amended) The method of claim 1, wherein said proportional control input includes a multiplicity of keys with a binary key and a filter to lower the sensitivity of proportional control.

24. (Currently Amended) The method of claim 3, wherein said bi-directional system network means uses a bi-directional RF data link.

25. (Currently Amended) The method of claim 24, wherein said RF data link means uses a frequency hopping transceiver.

27. (Currently Amended) The method of claim 25, wherein said frequency hopping RF data link selects between a primary hop sequence and a secondary hop sequence.

28. (Currently Amended) The method of claim 27, wherein said secondary hop sequence is used to control said decoder.

29. (Currently Amended) The method of claim 28, further including a backup battery.

30. (Currently Amended) The method of claim 29, wherein said backup battery is charged by power from said train layout.

31. (Currently Amended) The method of Claim 27 wherein said secondary hop sequence is time division multiplexed with said primary hop sequence.

32. (Currently Amended) The method of Claim 27 wherein said at least one secondary hop sequence is configured to allow exchange of multimedia and voice communication simultaneously with other network data with any other RF transceiver employing a matching said secondary hop sequence.

35. (Currently Amended) The method of Claim 24 wherein said RF data link uses an

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embedded system identifier to identify the desired layout for control and allow the routing of commands and data to the appropriately identified system.

36. (Currently Amended) The method of Claim 3, further including a phase-encoded digital bipolar square-wave waveform interleaved with a waveform selected from a member of the group to provide high speed control capability.

37. (Currently Amended) The method of Claim 36 wherein the decoder determines and corrects for pulse timing distortions.

38. (Currently Amended) The method of Claim 36 wherein said high speed control capability allows multimedia data and programming data to be sent over the tracks to a sound generator.

39. (Currently Amended) The method of claim 12, wherein the decoder further controls a light and a motor.

45. (Currently Amended) An apparatus for generating proportional commands and for controlling devices in a train layout system, comprising:

- a control input having a proportional key for generating an input signal proportional to an input force and for outputting a digital signal;

- a bi-directional transceiver for transmitting said digital signal to

- a command station for processing the digital signal and for generating a control signal for controlling said train layout system;

- a decoder for receiving and decoding said control signal and controlling a device for proportional effect.

46. (Currently Amended) The apparatus in claim 45, wherein said bi-directional transceiver employs an RF transmitter.

47. (Currently Amended) The apparatus in claim 46, wherein said RF transmitter uses frequency hopping.

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48. (Currently Amended) The apparatus in claim 45, wherein said bi-directional transceiver forms a bi-directional system data network.

49. (Currently Amended) The apparatus in claim 48, further comprising a user interface display for receiving data from said decoder via said bi-directional network and for displaying a status indicated by the data.

50. (Currently Amended) The apparatus in claim 45, wherein said control signal is a waveform selected from the group comprising: NMRA DCC, Marklin Trinary, Trix, FMZ, and Zimo.

51. (Currently Amended) The apparatus in claim 45, wherein said decoder includes a synchronous data connection to an expansion module.

61. (New) The apparatus in claim 45, wherein said decoder controls a sound generator.

62. (New) The apparatus in claim 52, wherein said sound generator proportionally modifies sound pitch and volume in response to motor load and speed information.

63. (New) The apparatus in claim 45, wherein said decoder controls a proportional effect of a sound generator.

64. (New) The apparatus in claim 45, wherein said decoder controls a proportional effect of a light.

3. Claims 1-25, 27-32, 35-39, 45-51 and 61-64 are allowed.

4. The following is an examiner's statement of reasons for allowance: The claims recites an apparatus and a method for controlling a train layout using an input means for generating proportional control signals. Such a combination is not taught or suggested by the prior art of record.

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Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Albert K. Wong whose telephone number is 571-272-3057. The examiner can normally be reached on M-Th.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wendy Garber can be reached on 571-272-7308. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



**ALBERT K. WONG**  
**PRIMARY EXAMINER**

Albert K. Wong  
August 13, 2006